elements: the local loop, the network interface device, switching capability, interoffice transmission facilities, signaling networks and call-related databases, operations support system functions, and operator services and directory assistance. The Supreme Court held that the FCC should give further substance to the terms "necessary" and "impair" under section 251(d)(2) of FTA before determining that the ILECs are required to provide access to all seven network elements.[96] Because CLECs had expressed an urgent need throughout the 271 process for certainty, the Texas Commission sought to fashion an interconnection agreement that would provide certainty in all areas, including access to unbundled network elements and combinations of those elements. As a result, when SWBT filed its T2A, SWBT reaffirmed its commitment to provide the UNEs approved by the Texas Commission in the AT&T mega-arbitration[97] at the forward looking rates established in that arbitration, irrespective of future action by the FCC, for a period of two years for service to business customers and three years for service to residential customers.[98] SWBT also reaffirmed its commitment to provide dark fiber and the sub-loop, as ordered by the Texas Commission in the mega-arbitration.

After the initial two or three year period, SWBT reserved the right to charge a market rate for any UNE that the Texas Commission or FCC determined need not be provided.[99] In addition, if the FCC or a court modifies or has modified the TELRIC methodology applicable to UNEs, SWBT may renegotiate the applicable prices pursuant to section 251(c)(3). SWBT further agreed to provide any new elements approved by this Texas Commission or the FCC.[100]

2. Combinations of Unbundled Network Elements

Although the combination issue had been a source of much controversy in the hearing and subsequent collaborative sessions, the Supreme Court's reversal of the Eighth Circuit decision[101] largely put that issue to rest with reference to elements that are already combined on the incumbents' network, although SWBT and the CLECs failed to reach agreement on the rates that should apply for such combinations. ILECs, however, continued to have no obligation to combine elements that were not already combined, although the law still required them to provide CLECs with access sufficient to combine such elements.[102]

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[96] Id.

[97] SWBT makes available access to the following unbundled network elements (UNEs): local loop, network interface device, local switching capability, tandem switching capability, interoffice transmission facilities, signaling networks and call-related databases, operations support system functions, and operator services and directory assistance. T2A, Attach. 6; AT&T Interconnection Agreement, Application of Southwestern Bell Telephone Company, App. B, Tab 60, Attach. 6 (Sep. 23, 1999) (hereinafter "AT&T Interconnection Agreement"); Deere Aff., App. A-2, Tab 3, para. 73.

[98] SWBT's Memorandum of Understanding, Application of Southwestern Bell Telephone Company, App. C, Vol. 101, Tab 1508, Attach. B, p. 26 (Apr. 26, 1999) (hereinafter "MOU"); T2A, Attach. 6, Secs. 14.3.1, 14.4.1; Affidavit of Michael C. Auinbauh, Application of Southwestern Bell Telephone Company, App. A-3, Tab 1, para. 85 (Jan. 10, 2000) (hereinafter "Auinbauh Aff.").

[99] Id.

[100] T2A, Attach. 6, Sec. 14.5; Auinbauh Aff., A-3, Tab 1, para. 85.

[101] 119 S. Ct. at 737 (The Supreme Court rejected ILECs' arguments that "unbundled" meant "physically separated" and instead upheld the FCC's determination that an ILEC may not separate elements that are already combined.)

[102] The Supreme Court did not address this issue because it was not appealed.

All CLECs that participated in the collaborative sessions preferred for SWBT to leave preexisting combinations in place and to combine elements that were not already combined.[103] In the MOU and T2A, SWBT agreed to provide CLECs with existing combinations of network elements.[104] SWBT further agreed to combine elements that were not already combined for the term of the contract for service provided to residential customers.[105] For service to business customers, SWBT agreed to combine elements that were not already combined, except after October 13, 2001 in SWBT central offices where four or more CLECs—all of whom are receiving UNEs from SWBT—are collocated.[106] SWBT also agreed to provide CLECs with Enhanced Extended Loop (EEL) by combining unbundled dedicated transport with unbundled loops for CLEC's provision of circuit or packet switched telephone exchange service to CLEC's own end user customers.[107]

If CLECs want to combine their own UNEs, they have several options. First, they can physically collocate using caged physical collocation, caged shared collocation, caged common collocation, cageless collocation and adjacent.[108] They can purchase collocation space in single bay increments. CLECs can also virtually collocate on SWBT's premises. In the event that SWBT ceases combining UNEs for business customers in offices where there are four or more CLECs collocated, CLECs may also do their own combining on a secured frame provided by SWBT.[109] CLECs are not required to collocate to use this option.[110] In order to use the secured frame option, CLECs will be required to submit a forecast of their anticipated needs for access to enable them to combine UNEs.[111] Within 60 days of receipt of CLEC forecasts,[112] SWBT will construct -- at no cost to CLECs -- a secured frame room in the central office or in an external cross connect cabinet, until space becomes available in the central office.[113] In the secured frame room or cabinet, CLECs may combine UNEs by placing a jumper wire cross-connect.[114] When CLECs order UNEs for combining at the secured frame or cabinet, SWBT is required to cross-

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[103] Final Staff Status Report.

[104] Auinbauh Aff., App. A-3, Tab 1, para. 87.

[105] *Id.*

[106] MOU at para. 27; T2A, Attach. 6, Sec. 14.3.3; Auinbauh Aff., App. A-3, Tab 1, para. 91.

[107] T2A, Attach. 6, para. 14.7.1 (For 4-wire digital packet switched EEL, the CLEC must do its own combining, however; there is no end-user restriction. SWBT also agreed to implement electronic ordering of EELs as a part of the change management process. The change management process is discussed in the OSS section of this recommendation.)

[108] *See* SWBT's Physical Collocation Tariff at 6.1.1.

[109] T2A, Attach. 6, Sec. 14.3.3 and 14.7.3; Auinbauh Aff., App. A-3, Tab 1, para. 90.

[110] *Id.*

[111] T2A, Attach. 6, Sec. 14.3.3; Auinbauh Aff., App. A-3, Tab 1, para. 96.

[112] SWBT will continue combining for CLECs until CLECs are provided with a secured frame room or external cross connect cabinet; if SWBT has no room for a secured frame room or external cross connect cabinet, SWBT will continue to do combining for any CLEC that has submitted its forecast. *Id.*

[113] T2A, Attach. 6, Sec. 14.3.3; Auinbauh Aff., App. A-3, Tab 1, para. 96.

[114] Auinbauh Aff., App. A-3, Tab 1, para. 96.

connect those elements to the frame or cabinet at no additional charge.[115] SWBT will negotiate a mutually agreeable method of wiring for cross-connects at the secured frame or cabinet with CLECs.[116]

For four-wire packet switched EEL, SWBT also agreed that a CLEC could cross-connect the unbundled loops and unbundled dedicated transport facilities in its physical collocation space using its own equipment or through the secured frame room in the central office.[117] If space is not available in a secured frame room, CLECs may perform cross-connects in an external cross-connect cabinet until space becomes available in the central office.[118] SWBT agreed that CLECs would incur no additional charge to have SWBT extend the loop and transport elements to the secured frame or cabinet.[119]

SWBT is providing the UNE platform (UNE-P). As stated in the Affidavit of John Habeeb of SWBT, as of October 31, 1999, SWBT has provided 103,000 loop/port combinations to CLECs in Texas. UNE-P performance measures are addressed under Checklist Item 4 – individual UNE performance measures are discussed under the corresponding checklist items.

3.   UNE Pricing

All of the pricing provisions of the T2A, with the exception of pricing for xDSL, are taken from the AT&T interconnection agreement, which was a result of the mega-arbitration. The rates have been deaveraged into three geographic areas: urban, suburban, and rural. The deaveraged rates are available under the T2A. As the record from the mega-arbitration demonstrates, the pricing in the AT&T interconnection agreement was cost based and forward looking, based upon Total Element Long Run Incremental Cost (TELRIC) methodology.[120] In the AT&T agreement, the Texas Commission allowed SWBT to recover a Central Office Access Charge (COAC) for providing UNE-P, irrespective of whether the combination was preexisting or new. The AT&T agreement, however, contained a change of law provision that prevented SWBT from charging the COAC on preexisting combinations in the event that the Supreme Court reversed the United States Court of Appeals for the Eighth Circuit and reinstated 47 C.F.R. § 51.315(b).[121] Accordingly, when SWBT filed the MOU and T2A, SWBT agreed not to apply the COAC to preexisting combined elements.[122] The COAC charge would apply for

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[115] T2A, Attach. 6, Sec. 14.3.3.1.

[116] T2A, Attach. 6, Sec. 14.3.3.2 ("During such period of negotiation or until a mutually agreeable method of wiring is established, the CLEC may obtain from SWBT, the combining services for Network Elements at a non-recurring charge to be set by SWBT at any amount not to exceed $44.92 for simple business orders and $98.31 for complex business orders. This charge shall apply in addition to any other applicable recurring and non-recurring charges.")

[117] T2A, Attach. 6, Sec. 14.7.3.

[118] Id. ("CLEC can access the secured frame or the external cross connect cabinet without having to collocate.")

[119] Id.

[120] SWBT has submitted the orders and costing information from the mega-arbitration as Appendix F.

[121] Auinbauh Aff., App. A-3, Tab 1, para. 141.

[122] MOU at para. 26; T2A, Attach. 6, Sec. 14.2; Auinbauh Aff., App. A-3, Tab 1, para. 141.

combinations requiring work by SWBT.[123] For EEL, if the transport and loops are already connected at the time of the CLEC order, SWBT agreed not to apply a COAC charge.[124]

Under the mega-arbitration, the Texas Commission approved three nonrecurring charges: the analog loop to switch port cross-connect charge, the two-wire analog loop charge, and the analog line port charge. AT&T asserted in the 271 proceeding, an appeal of the mega-arbitration in federal court, and in a separate complaint filed with the Texas Commission[125] that the nonrecurring charges at issue are not cost based as to elements in preexisting combinations. AT&T alleges that the charges are phantom, designed to compensate SWBT for combining the elements at a time when SWBT had no legal obligation to provide elements in combined form. SWBT asserts that the nonrecurring charges are forward looking costs of work activities performed by SWBT in providing the individual elements.[126]

The Texas Commission set the nonrecurring charges at issue based on cost studies and/or other testimony presented in the mega-arbitration proceeding. SWBT presented cost studies to support the three disputed charges. Testimony by SWBT witnesses in support of the cost studies explained that the proposed charges were averages that took into account the fact that different requests for network elements to serve different customers would entail different amounts of work. The charges were established at a time when the Texas Commission was precluded by law—the Eighth Circuit's decision in *Iowa Utilities Board*—from taking into consideration that certain network elements may exist in already-combined form. In approving the nonrecurring charges the Texas Commission could not and did not differentiate between instances in which the combinations already existed and instances in which new combinations had to be created. As a result, the non-recurring charges reflect the weighted, forward-looking cost of all combinations, both pre-existing and new. During the MOU discussions, CLECs indicated that they were not interested in deaveraging the non-recurring charges into separate rates that may ultimately be lower for existing combinations and higher for new combinations.

For residential customers, SWBT agreed to price new UNE combos at the rates set by the Texas Commission until October 13, 2002.[127] After October 13, 2002, if SWBT is not legally obligated to provide a certain UNE or if TELRIC pricing requirements are modified, SWBT agrees to continue combining the elements but may adjust the price of the affected element as permitted by law; SWBT, however, will not increase the total price of the UNE-P by more than 20 percent per year.[128] For business customers, SWBT agreed to price new UNE combos at the

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[123] MOU at para. 26; Auinbauh Aff., App. A-3, Tab 1, para. 141.

[124] *Id.*

[125] PUCT Docket No. 21622, *Complaint of AT&T Communications of the Southwest, Inc., Teleport Communications Houston, Inc. and TCG Dallas Against Southwestern Bell Telephone Company to Eliminate Non-Recurring Charges* (November 8, 1999). The Texas Commission is committed to resolving these issues in an expedited manner. Briefing is set for February and the hearing will follow shortly thereafter.

[126] PUCT Docket No. 21622, Southwestern Bell Telephone Company's Answer to Complaint of AT&T Communications of the Southwest, Inc., Teleport Communications Houston, Inc., and TCG Dallas (December 28, 1999).

[127] Auinbauh Aff., App. A-3, Tab 1, para. 92.

[128] T2A, Attach. 6, Sec. 14.4.2.

rates set by the Texas Commission until October 13, 2001.[129] After October 13, 2001, in those central offices where four or more CLECs are collocated and SWBT has provided UNEs, SWBT may elect not to combine UNEs that are not already combined. If so, CLECs may do their own combining as discussed above. In addition, if SWBT is not legally obligated to provide a certain UNE or if TELRIC pricing requirements are modified, SWBT agrees to continue combining the elements but may adjust the price of the affected element as permitted by law.[130]

4.   Operations Support Systems (OSS)

Operations support systems (OSS) and the information they contain are critical to the ability of competing carriers to use network elements and resale services to compete with ILECs.[131] In determining whether a BOC has met its OSS obligation under Section 271, the Commission generally must determine whether the access given to competing carriers sufficiently supports each of the three modes of competitive entry established by the Act: interconnection, unbundled network elements, and services offered for resale.[132] Item 2 of the competitive checklist requires a Section 271 applicant to provide nondiscriminatory access to network elements in accordance with the requirements of sections 251(c)(3) and 252(d)(1). Although non-discriminatory access to OSS has an impact across many checklist items, it is incorporated under checklist item 2 as a separate UNE.[133] After a rigorous review and testing process over the course of nearly two years, the Texas Commission concludes that SWBT has met its OSS obligations under section 271 by providing non-discriminatory access. The Texas Commission's review included, in addition to carrier-to-carrier testing, a lengthy collaborative process between the Texas Commission, SWBT and the CLEC community. The collaborative process and resulting evidentiary record resulted in the resolution of many issues affecting SWBT's OSS. Issues not resolved in the collaborative process were moved to carrier-to-carrier testing.

Examples of the Texas Commission's focus on OSS issues outside of the scope of testing include: the development of a CLEC escalation process; delineation of the relationship management/public interest requirements; opening of docket no. 21000, informal dispute

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[129] Auinbauh Aff., App. A-3, Tab 1, para. 91.

[130] T2A, Attach. 6, Sec. 14.4.2.

[131] *Ameritech Michigan*, at 20613-14, para. 130.

[132] *Id.* at 20615, para. 133.

[133] In the *Local Competition First Report and Order*, the Commission enumerated operations support systems (OSS) as an element that ILECs were required to unbundle. *Local Competition First Report and Order*, 11 F.C.C.R., at 15683; BellSouth Corporation, 13 F.C.C.R., 20599, 20653, para. 83 (1998) (hereinafter "*BellSouth Louisiana II*"). (citing *Iowa Utils. Bd. v. Commission*, 120 F.3d 753, 808-809 (1998). According to the Commission, "providing access to OSS functions falls squarely within an ILEC's duty under section 251(c)(3) to provide unbundled network elements under terms and conditions that are nondiscriminatory, just and reasonable, and its duty under section 251(c)(4) to offer resale services without imposing any limitations or conditions that are discriminatory or unreasonable." *Ameritech Michigan*, 12 F.C.C.R. at 20613-14, para. 130 (citing *Local Competition First Report and Order*, 11 F.C.C.R. at 15660-61).

resolution on OSS issues; development of the CLEC users group; a comprehensive agreed change management document.

The Texas Commission also required third party verification of certain processes outside the scope of carrier-to-carrier testing that included two change management reviews, a review of EDI/LSR documentation, and a review of performance measure security and auditability. Finally the Texas Commission conducted a comprehensive examination of SWBT's commercial performance as delineated in performance measures.

a.   Third Party Testing

To address the OSS issues that remained at the conclusion of the collaborative process, as well as to supplement the evidentiary record on commercial usage, the Texas Commission created Project No. 20000 to manage an independent review and test of SWBT's OSSs. At the request of the Texas Commission, SWBT agreed to demonstrate its compliance with the implementation issues that were not fully addressed in the collaborative process. In determining the appropriate test methodology the Texas Commission noted that CLEC interfaces used to pass orders to SWBT OSS were sufficiently developed to merit use of the third party monitored carrier-to-carrier test model.[134] A pseudo-CLEC model was determined to be an inappropriate use of resources for two principle reasons: the collaborative process resolved a number of items that would otherwise have required testing, and the extent of commercial development of interfaces by CLECs in Texas. The Texas Commission also noted that carrier to carrier testing carried some benefits not readily apparent in pseudo-CLEC testing. One identified during the capacity testing was a glitch with the use of a non-industry standard protocol. The participatory expertise of various CLECs building interfaces and passing orders per specific business needs allowed the identification of a problem from the perspective of a single carrier that may not have been identified through the use of a single national standard protocol.

As the Commission found in the *Ameritech Order*, commercial volume is the most probative evidence of OSS readiness.[135] The Commission subsequently indicated that a BOC must provide end-to-end testing results if there is a lack of actual commercial usage.[136] As is discussed in more detail below, the OSS readiness test and subsequent evaluation examined performance in the areas of pre-ordering, ordering, provisioning, maintenance and repair, billing, documentation, change management, and performance measure implementation. Overall, the testing objectives were designed to "assess the operational readiness of those systems to support CLEC competition in Texas."[137]

In designing the third-party testing the following chronology of events occurred:

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[134] The Commission notes that "absent data on commercial usage, we will examine carefully the results of carrier-to-carrier testing." *Ameritech Michigan* at 20628-29, para. 161.

[135] *Ameritech Michigan* at 20618, para. 138.

[136] *BellSouth Louisiana II* at 20690, para. 140

[137] Telcordia's Final OSS Readiness Report, Application of Southwestern Bell Telephone Company, App. D Vol. 7, Tab 76, p. 7 (10/07/99) (hereinafter " Final SWBT OSS Readiness Report").

- The Texas Commission obtained CLEC 1st quarter 2000 forecasts with the intent of designing a capacity test.
- The Texas Commission made the determination to adopt the third-party monitored carrier-to-carrier testing approach.
- The technical advisory group (TAG)[138] collaborative approach was adopted to have industry members actively involved in technical issues associated with testing. The Texas Commission formed a technical advisory group (TAG) consisting of the Texas Commission, SWBT, and a number of CLECs.
- The Texas Commission issued its request for proposals in the Fall of 1998.
- Vendor bids were forwarded to TAG members for comment.
- Telcordia Technologies (Telcordia) was selected as the independent third party.[139]
- Telcordia, SWBT and the Texas Commission executed a three-party contract that was filed on May 25, 1999.[140]
- Telcordia reviewed TAG activities that preceded its involvement, worked on scoping issues with the TAG, and drafted the Master Test Plan (MTP).[141] The Texas Commission developed the scope of the testing from discussions in the TAG meetings that further refined the scope document initially provided.
- Initial testing phase executed primarily during May and June of 1999. This phase included functionality and capacity testing as well as a performance measures review.
- Telcordia presentation of Interim Results.
- Development of a re-test plan for those items that needed additional testing as well as tests of additional functionality not included in the initial testing.
- Delivery of and presentation of the Final Report and findings in October 1999.
- Delivery of separate evaluation of SWBT's Change Management Process for its August 1999 release.
- Subsequent follow-up activity including five follow-up reports and additional evaluation requested by the Texas Commission.[142]

i.   Participants' Role in Testing

The Texas Commission's role in the OSS readiness test included: overseeing the development of the functionality and capacity tests, overseeing the test process, assisting in the

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[138] All interested CLECs were able to participate on the TAG. Various CLECs participated to some degree including AT&T, MCIW, Allegiance Telecom, Inc., Northpoint Communications, Covad and E*spire.

[139] Telcordia Technologies was known as Bellcore at the time of the selection. Other bidders seeking to participate with the carrier-to-carrier format included KPMG Peat Marwick L.L.P. (KPMG), Hewlett Packard, Beechwood Data Systems, Inc., and Creative Support Solutions.

[140] Contract revisions and additional contracts were executed to address change management review and post-testing follow-up activities. Another addendum is anticipated to address some post-271 validation efforts requested by the Commission. As in other states, while SWBT agreed to pay the costs of the third party monitor, the consultants reported directly to Commission Staff and had no reporting relationship with SWBT.

[141] The Master Test Plan, among other things, discusses test scope and methodology.

[142] This activity included a review of EDI documentation, review of the implementation of the change management process for SWBT's 10/23/99 release, review of the implementation of PMs 35 and 37, and a review of Tier-1 performance measures damage calculation.

defining of the test scope, ensuring a collaborative process, providing final approval of "baselined" documents[143] with input from the TAG and Telcordia, approving data retention policy for participants, acting as the test manager, and making a final recommendation to the Texas Commission on SWBT's OSS readiness. The Texas Commission was assisted in these tasks by Telcordia, which acted as the Texas Commission's technical advisor. Telcordia's other roles included, but were not limited to, validating the appropriateness of the various tests, validating the test results, monitoring test execution, and preparing evaluation reports. Telcordia also extensively reviewed the implementation of the business rules for performance measures established by the Texas Commission.

It was neither the role of the Texas Commission nor Telcordia to create and pass pre-order queries and/or local service requests (LSRs). Instead, consistent with the carrier-to-carrier test structure, participating CLECs used their own systems to pass data to SWBT's production systems. CLEC Test Participants were to provide detail to Telcordia prior to executing the test to allow Telcordia to plan and engage in necessary monitoring activities. The test planning, preparation, and execution engaged in by the CLEC Test Participants required them to dedicate personnel to the various required tasks and assure their availability to the Texas Commission and Telcordia.

SWBT's role differed from that of the other test participants. SWBT participated as part of the TAG in the test planning and in a portion of the test preparation but was excluded from any specific planning and execution discussions that would impair the achievable test blindness. In other words, where SWBT could provide its expertise to supplement that of the other TAG members in a way that did not give SWBT improper knowledge of test specifics or timing, SWBT participated.

ii. Test Execution

Test execution occurred in two phases. An initial test phase was executed and evaluated in April and May of 1999. This phase included a functionality test in which SWBT's end to end processes for the passing of CLEC orders were tested; a capacity test in which SWBT's ordering and pre-ordering systems were tested for their ability to meet CLEC forecasted demand levels for the first quarter of 2000; and an evaluation of SWBT's implementation of the performance measures.

At the conclusion of the initial test phase, Telcordia conducted a technical presentation and released an interim report. The interim report provided a summary of the work to date. During the week following the interim report, Telcordia participated in extensive (on the record) question and answer periods whereby industry members could ask clarifying questions and contribute to root cause analysis of existing deficiencies in the SWBT OSS.

When analyzing test results from the initial test period, Telcordia evaluated the root cause in every instance in which it could validate that a deficiency in the SWBT OSS existed. In some

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[143] For example, Telcordia developed the Master Test Plan and the Retest Plan based on input from the Texas Commission, SWBT, and the CLEC members of the TAG. The ultimate decision to move forward on those plans remained with the Texas Commission.

instances Telcordia determined the necessity for re-testing certain order types to determine whether executed fixes were effective, as well as to further evaluate SWBT OSS.

The second phase of testing, the "re-test" phase, was executed in August, 1999 and consisted of further functionality testing of SWBT systems. CLEC input from the technical presentation, the question and answer periods, written comments, and informal one-on-one communications assisted Telcordia in identifying re-test needs.

The results of the two phased carrier-to-carrier testing are documented exhaustively in Telcordia's final report to the Texas Commission.[144] Although Telcordia refers to its review as a "snapshot" test, in fact Telcordia's testing was "military style" testing. The term "snapshot" simply conveys the concept that dynamic systems are reviewable in a static test only at the time that the test is conducted – thus system changes may alter future testing results. In the Texas test where there were problems with the OSSs currently available, the root cause was identified, fixes were implemented, and systems were re-tested. Implemented fixes included system upgrades, documentation changes, and process improvements. Attachment A to the final report delineates the 270 issues documented by Telcordia technologies or CLEC test participants with resulting root-cause analysis.[145] Attachment A also delineates Telcordia's analysis of the necessity for updates to SWBT systems, processes or documentation as well as the resulting changes implemented by SWBT. In addition Telcordia recommended seven next steps.[146] Based on further work performed by Telcordia, the Texas Commission concluded by December 16, 1999 that each of those items had been sufficiently addressed.[147]

At the Texas Commission's request, Telcordia also conducted additional post-testing validation. These activities included a review of SWBT's action plans to fully comply with Telcordia's recommendations, a review of additional information for discussion in open meeting, and reporting in supplements on additional narrow issues.

Subsequent Telcordia activity culminated in open meeting discussion at the November 4, 1999 Open Meeting or resulted in the release of supplemental reports that were posted on the Texas Commission's website on December 13, 1999 and the subject of discussion at the December 16, 1999 Open Meeting. These supplemental reports included an additional review of SWBT's execution of the Change Management process for the October 1999 release, an evaluation of the security and auditability of the system for collecting and reporting performance measures, evaluation of SWBT's implementation of two new performance measures, and a

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[144] Presented at the Commission on October 20, 1999.

[145] Final SWBT OSS Readiness Report, Attach. A at p. 10, 11.

[146] The seven recommended next steps included: 1) revision of certain procedures for scalability forecasting; 2) implementation of the unimplemented performance measures; 3) that the Texas Commission require expeditious resolution of the unclosed issue list items; 4) increased automation of the performance measures reporting process; 5) increase security and auditability of the performance measure data; 6) confirmation of the effectiveness of SWBT's procedures for ordering xDSL loops; 7) improvement of the understanding and use by CLEC and SWBT personnel of standard methods and procedures specified in various documents.

[147] Final SWBT OSS Readiness Report, Attach. A at p. 11, 12.

measurement of damage amounts for Tier 1 performance measures penalties. The Texas Commission approved these reports and found they addressed its concerns.

b. Pre-Order

Pre-ordering includes the activities undertaken by a carrier to gather and confirm the customer's information in order to formulate an accurate order for that customer.[148] New entrants need access to information about an incumbent's network and the availability of products, services, and features to interact with their customers and obtain the information needed to place an order for the services the customer desires.[149] Pre-ordering includes the following functions: (1) street address validation; (2) telephone number information; (3) services and features information; (4) due date information; and (5) customer service record (CSR) information.[150]

In Order No. 25 the Texas Commission recommended, with respect to pre-ordering, that SWBT modify LEX for better integration, improve the pre-ordering interfaces available to CLECs, and provide sufficient access to PREMIS.[151] By the end of the collaborative process, SWBT had satisfied the Texas Commission that most of these recommendations had been met.[152] To the extent that issues remained, Telcordia's testing of pre-order functionality and capacity satisfied the Texas Commission that SWBT's provides non-discriminatory access to its pre-order interfaces. SWBT also addressed concerns by implementing process improvements and ultimately providing those improvements in the T2A.

SWBT has processes in place for all pre-ordering activities. SWBT provides access to pre-ordering information through EASE, Verigate, DataGate and EDI.[153] Additionally, manual pre-ordering is provided through the LSC and LOC.[154] EASE, available for resale only, is the same on-line system used by SWBT.[155] Verigate, a proprietary graphical user interface (GUI) operating on Windows, uses the same data processing systems as DATAGATE and provides CLECs with real-time access to the pre-ordering capabilities of SWBT's OSS for resold services and UNEs.[156] Datagate is an application to application interface that can be integrated into a

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[148] BellSouth Corporation, 13 F.C.C.R. 539, 619, para. 147 (1998) (hereinafter "BellSouth South Carolina"), (citing 47 C.F.R. § 51.5). The Commission defines pre-ordering and ordering collectively as "the exchange of information between telecommunications carriers about current or proposed customer products and services or unbundled network elements or some combination thereof."

[149] *Id.*

[150] *BellSouth Louisiana II*, 13 F.C.C.R. at 20660, para. 94.

[151] *See* Final Staff Status Report.

[152] *Id.*

[153] SWBT noted that in the event the national guidelines were different than what SWBT had developed, it would make the required modifications.

[154] Affidavit of Elizabeth A. Ham, Application of Southwestern Bell Telephone Company, App. A-4, Tab 1, para.10 (Jan 10, 2000) (hereinafter "Ham Aff.")

[155] *Id.* at para. 29.

[156] *Id.* Since Sept. 1997 Verigate has processed more than 1.5 million pre-order transactions.

CLECs back-office systems.[157] By using Datagate, CLECs can acquire pre-order information for resold and UNE services, as well as integrate EDI.[158] EDI/CORBA also is an industry standard application to application interface that can be integrated with a CLECs own system.[159]

SWBT makes the following pre-order capabilities available to all CLECs: address verification, access to customer service records and customer service inquiries, access to directory listing and directory assistance, determining service and feature availability, access to tn assignment, due date availability, dispatch requirements, access to PIC list, access to LPIC list, access to CLLI, access to CFA for UNEs, NC/NCI code for UNEs, and DSL loop pre-qualification.[160] In addition to DSL loop pre-qualification, SWBT provides loop make-up information as a pre-order function on a manual basis.[161] Furthermore, as part of the Ameritech merger conditions, SWBT is developing enhancements for mechanized loop qualification. SWBT also is obligated to conform its mechanized pre-ordering functionality to the Texas Commission's arbitration decision that addresses electronic access to DSL loop make-up information.

SWBT is relying upon its EDI system as evidence that it provides an electronic OSS that is at parity with what it provides to its retail side. However, SWBT has also committed to provide LEX/VERIGATE as a secondary option for those CLECs who have not yet developed or have chosen not to develop an application to application interface. The EDI solution provides the integration required by the Texas Commission to provide nondiscriminatory access, while LEX/VERIGATE is a satisfactory alternative. Specifically, SWBT has agreed to provide EDI interfaces for transferring and receiving orders, firm order confirmation (FOC), service order completions, and other provisioning data and information.[162] Also, when ordering UNEs, the CLEC will have access to a pre-order electronic gateway provided by SWBT that provides real time access to SWBT's information systems.[163]

i.   Testing

The availability, accuracy, and timeliness of certain SWBT pre-order systems was assessed in the course of capacity testing as well as monitored during the re-testing phase of functionality testing. Pre-order capacity testing focused on two current SWBT systems for pre-order - Datagate,[164] and Verigate. In the Datagate capacity test, 51,844 queries were sent by

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[157] *Id.*

[158] *Id.* (Datagate and Verigate have processed 3.7 million pre-order queries since inception. Bell Atlantic processed over 1.3 million pre-order transactions at the time of filing.); *Bell Atlantic New York*, CC Docket No. 99-295 at para. 150.)

[159] *Bell Atlantic New York*, CC Docket No. 99-295 at para. 150.

[160] Ham Aff., App. A-4, Tab 1, para. 52.

[161] *Id.* at para. 212.

[162] T2A, Attach. 7, Sec. 4.1.

[163] *Id.* at Sec. 4.2.

[164] Datagate is based on SWBT proprietary standards because it was developed prior to the development of national standards. SWBT will provide EDI-9 and EDI-10 pre-order functionality according to the calendar developed in the

UNE-P/Resale CLEC test participants on the test day. In the Verigate capacity test, 20,488 queries were sent by SWBT while monitored by Telcordia. These queries were supplemented by 32,243 live production queries for a total of 52,731 queries on the test day. This capacity testing determined the benchmarks used for performance measures of SWBT pre-order systems.

Telcordia also observed the processing of 48 accounts submitted for pre-order to the Verigate system during the re-test. As noted in the final report, Telcordia observed that CLEC queries resulted in satisfactory performance in pulling each of the following pre-order functionality's: (1) street address validation; (2) telephone number information; (3) services and features information; (4) due date information; and (5) customer service record (CSR) information. These observations allowed Telcordia and the Texas Commission to conclude that the CLEC could accurately pull the required information from the SWBT systems in order to build a Local Service Request. Telcordia determined that the executed workload met expectations with respect to both the capacity and functionality testing of SWBT's pre-ordering systems.[165]

ii.   Commercial Performance

PM-1 measures SWBT's average response time for OSS Pre-Order interfaces, Datagate which is integrated with the EDI interface and Verigate which is tied to EASE. Performance is measured against benchmarks, which were based on actual response times observed by Telcordia during the capacity test. This performance measure is disaggregated in order to capture each of the relevant CLEC request capabilities.[166] SWBT's reported response times for Datagate have, with few exceptions, been well within the required benchmark. For instance, SWBT has met the benchmark for Datagate in six of the seven disaggregated measures.[167] SWBT's only substandard performance occurred for Primary Interexchange Carrier (PIC) requests in September, and then it was only off by 4.5 seconds. Root cause analysis did not uncover systemic problems and SWBT met the benchmark for the months of October and November.[168]

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change management forum. The EDI pre-order functionality will be built as a front-end to the underlying Datagate processors.

[165] Final SWBT OSS Readiness Report at pp. 8, 36, 52, 57, 68, 110, and 111-120.

[166] These submeasures include: (1) address verification; (2) request for telephone numbers; (3) request for summary CSR; (4) request for detailed CSR; (5) service availability; (6) due date; (7) dispatch required; and (8) PIC.

[167] PM-1. Average Response Time for OSS Pre-Order Interfaces Address Verification – DataGate (1-01-CO): SWBT performed better than the benchmark in August, September and October. Request for Telephone Number – DataGate (1-02-CO): SWBT has met or performed better than the benchmark for all four months. Service Record (CSR) – DataGate (1-03-CO): SWBT has performed better than the benchmark for the last four months. Service Availability – DataGate (1-04-CO): SWBT has met or performed better than the benchmark for the last four months where there were 10 or more data points. Service Appointment Scheduling (Due Date) – DataGate (1-05-CO): SWBT has performed better than the benchmark for the last four months. Dispatch Required – DataGate (1-06-CO): SWBT has performed better than the benchmark for the last four months where there were 10 or more data points. PIC – DataGate (1-07-CO): SWBT has met the 28 second benchmark in July and August. This benchmark was missed in September 1999 by only 4.5 seconds. Additionally, although the performance results for Verigate failed for two out of three months for several requests, a closer examination of the data revealed that the performance trend is toward improvement.

[168] Dysart Aff., App. A-5, Tab 1, para. 109.

PM-3 has been established to capture the average response time for EASE. Because EASE is the system used by SWBT representatives, the goal for this measure is parity. However, during the collaborative process a benchmark of SWBT performance plus .05 seconds was established.[169] Furthermore, SWBT has provided compliant performance for all months, August through November, where data is available.

PM-22 measures the percent of calls answered by the LSC within 20 seconds. PM-23 measures the percent of calls, which are unable to reach the LSC due to a busy condition in the ACD. The data for these measures are reported for both LSC complexes, Dallas and Alliance. For both measures, for the months of August through November, SWBT delivered well above parity performance.

PM-25 measures the percent of calls answered by the LOC within a specified period of time. SWBT provided better than parity service August through October. Although SWBT missed this measure for November, the percent difference was 1.1%.

PM-26 measures the percent of calls, which are unable to reach the LOC due to a busy condition in the ACD. SWBT has delivered better than parity performance for the months of August through November.

SWBT has demonstrated it is legally obligated to provide and does in fact provide nondiscriminatory access to pre-ordering functionalities. In addition, SWBT's systems have tested adequately and the commercial performance data indicates, with minor exceptions, compliant performance. Therefore, based on the entire record, the Texas Commission concludes that SWBT provides nondiscriminatory access to OSS pre-order functions.

c.   Ordering and Provisioning

Ordering involves the process by which a CLEC orders services through a transaction with SWBT and receives confirmation or rejection of that order. Provisioning entails SWBT's ability to timely provide the service ordered by the CLEC. Due to the fact that the ordering and provisioning of resale services is analogous to the ordering and provisioning of a BOC's retail services, a BOC must provide competing carriers access to OSS functions equal to the access that it provides to its retail operations.[170] To demonstrate nondiscriminatory access to OSS functions, a BOC must demonstrate that it is provisioning resale orders within the same average installation interval as that achieved by its retail operations.[171] In addition to parity for resale services, a BOC cannot comply with 271 until it shows that its OSS functions for use of UNEs also comply with the nondiscrimination requirements.[172] Because ordering and provisioning of

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[169] The benchmark is in place until such time as SWBT has the ability to calculate sum of the squares.

[170] *Ameritech Michigan*, 12 F.C.C.R. at 20631, para. 166.

[171] *Id.* at 20632, para. 168.

[172] *BellSouth Louisiana II* at 20687-90, para. 134-141.

UNEs may not have a retail analogue, a BOC must show it offers access "sufficient to provide an efficient competitor a meaningful opportunity to compete."[173]

In addition, a BOC's OSS functions for ordering and provisioning must be able to "handle reasonable fluctuations in service orders by competing carriers as well as reasonably foreseeable general increases in ordering volumes."[174] If the OSS cannot accommodate the volume of orders, the BOC must rely on manual processing. In turn, increased reliance on manual processing impacts a BOC's ability to provision orders on a timely basis, thereby limiting the level of service a competing carrier can provide to its customers.[175]

In Order No. 25, the Texas Commission made various recommendations regarding ordering and provisioning functions including: SWBT should provide increased flow-through capabilities; SWBT should provide error and jeopardy notifications; SWBT should provide access to SORD and LFACS; SWBT should limit its manual processes; and SWBT should provide real time processing of FOCs and SOCs. Several of these issues were addressed during the collaborative process to the satisfaction of the Texas Commission.[176] However, to the extent the issues were not solved during the collaborative process, Telcordia's testing demonstrated that these issues had been solved. SWBT implemented process improvements where needed and successfully incorporated the necessary functionality into the T2A.

SWBT currently provides four electronic interfaces to CLECs for ordering and provisioning. These include 1) EASE, which permits CLECs to perform a range of resale transactions for residential and most business customers; 2) SORD, which allows CLECs to perform ordering functions for resold services and UNEs; SORD is the ordering system used by SWBT retail; 3) LEX, which is a windows based GUI based on national standards that can be used to enter LSRs for resold and UNE services as well as receive electronic reject/jeopardy notification; and 4) EDI, which provides an ordering gateway for resold services and UNEs, and returns electronic rejects/jeopardy notification, FOCs, SOCs on a real-time basis. EDI can be integrated with Datagate or EDI/CORBA to provide integrated pre-ordering and ordering systems. Additionally, the collaborative process resulted in enhanced processing, including real-time processing of CLEC LEX and EDI orders as well as real-time return of FOCs/SOCs.[177] Also, SWBT implemented mechanized interfaces to enable CLECs using EDI and LEX to receive jeopardy notices.

In the T2A, SWBT agreed to provide CLECs UNEs with two electronic systems for ordering and provisioning: first, SWBT agreed to provide CLECs with an industry standard EDI interface;[178] second, SWBT agreed to provide CLECs with access to LEX, its proprietary

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[173] *Id.*

[174] *Ameritech Michigan*, 12 F.C.C.R. at 20619-20, at 20649-50, para. 199.

[175] *Id.* at 20648, para. 196.

[176] *See* Final Staff Status Report.

[177] Ham Aff., App. A-4, Tab 1, para. 11.

[178] T2A, Attach. 7, Sec. 4.1.

electronic ordering system.[179] Upon request, SWBT agreed to grant CLECs access to SORD.[180] SWBT agreed to provide, for all UNEs ordered under the T2A, pre-order, ordering and provisioning services equal in quality and speed to the services SWBT provides to its end users for the equivalent service.[181] SWBT agreed to provide to CLECs various documents relating to specific OSS functions.[182] Among these documents is a subset of the Street Address Guide, a list of current LASR edits, and a guide to error codes.[183]

SWBT also agreed to the creation of an error resolution team to deal with service orders in error status after the order has reached completion status, but before it has posted.[184] More specifically, SWBT has agreed that upon a CLEC's request, SWBT will suspend or restore the functionality of any unbundled Switch Port for any CLEC local service customer.[185] SWBT has also agreed to not release the telephone number being used by the end user when a CLEC initiates a suspension or disconnects their end user for nonpayment.[186] SWBT has agreed to provide CLECs the functionality of blocking calls by line or trunk.[187] Finally, SWBT has agreed that it will use a mechanized process to ensure that its directory listing, 911, and LIDB information for the end-user is not deleted during the process of converting that customer to a CLEC customer.[188]

On provisioning, SWBT has agreed to provide CLECs with a FOC for each order.[189] Further, all orders submitted via EDI or LEX will be processed on a real time basis, rather than in batch mode and corresponding SOCs will be returned on a real time basis.[190] SWBT agreed to provide CLECs electronically via EDI, rejection/errors notifications, and when available, jeopardy notices.[191] SWBT agreed that in areas where service order transactions cannot be provided via an electronic interface for the pre-order, ordering and provisioning processes, SWBT and CLECS will develop manual work around processes until such time as the transactions can be electronically transmitted.[192]

i.   Testing

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[179] *Id.*, at Sec. 4.1.2.

[180] *Id.* at Sec. 3.2.2.

[181] *Id.* at Sec. 1.5.

[182] *Id.* at Sec 3.9.

[183] *Id.*

[184] *Id.* at Sec. 3.11.

[185] *Id.* at Sec. 5.1.

[186] *Id.* at Sec. 5.4.1.

[187] *Id.* at Sec. 5.2.

[188] *Id.* at Sec. 5.8.

[189] *Id.* at Sec. 6.4.

[190] *Id.*

[191] *Id.* at Sec. 6.6-6.7.

[192] T2A, Attach. 2, Sec. 1.5.

The ordering and provisioning portion of Telcordia functionality testing was designed to broadly capture the various ordering activities. UNE-P, resale, UNE-L, UNE-L with Number Portability (NP), ADSL-capable loop, and ISDN loop ordering (for SDSL use) were tested along with various feature combinations for each order type.[193] Additionally, appropriate notifications including rejects and jeopardies were within the scope of testing.[194] The breadth of the testing allowed Telcordia to incorporate into its review various SWBT work groups, methods, and procedures. For example, in the initial test some electronic orders were receiving fax rejects. After implementing the LASR GUI electronic reject notice process rejects from electronic orders were received electronically over the EDI Gateway/LEX. The ordering and provisioning testing was designed to review SWBT's production environment OSS capabilities. Moreover, because production systems were used, the volunteers/friendlies could be used to test both provisioning accuracy, through feature testing, and the adequacy of SWBT's billing systems, through use of usage-sensitive test calls.

One of the test objectives was to keep the test as blind to SWBT as was reasonable. At one extreme, SWBT was not aware that a CLEC was a test participant and that SDSL-capable loops via the LEX ISDN-loop ordering capability were being tested until the issuance of the interim report. In other cases, test orders were mixed with a participant's commercial traffic. With one participant, a separate carrier identification code was used for a participants test orders; however, with this CLEC and in all functionality testing SWBT was not aware of the test start date, finish date, schedule, nor pacing of the test orders.[195]

To further limit SWBT's ability to obtain sensitive test information, Telcordia monitored SWBT's operations when test orders were being passed as well as when no test activity was occurring.[196] This satisfied two goals. First, it limited SWBT's ability to single out test orders. Second, Telcordia could determine whether the test orders received preferential treatment as compared to commercial traffic.[197]

Telcordia made the following findings with respect to the functionality test results. During the initial UNE-L functionality testing, Telcordia verified that of 46 LSRs submitted for provisioning, all resulted in service order completions. During re-testing Telcordia verified that all 46 orders actually received service. During resale functionality testing of 51 test orders sent, 51 received service order completions. During initial UNE-P/resale functionality testing Telcordia verified that of 515 test orders submitted for provisioning including disconnects, 464 received service order completions and 48 orders were canceled by the CLEC test participant. During the retest 58 UNE-P orders submitted for provisioning, including disconnects 54 received

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[193] Final SWBT OSS Readiness Report, § 4.2. Note that the quantities within the review of ADSL and ISDN loop ordering were limited. § 4.4.

[194] *See e.g.,* Final Staff Status Report.

[195] Final SWBT OSS Readiness Report, § 3.6.6.

[196] Final SWBT OSS Readiness Report, § 4.5.4.

[197] Final SWBT OSS Readiness Report Sections 4.5.3 and 4.5.4 contain some of the OSS Readiness Report's discussion regarding review of SWBT's LSC, LOC, and Customer Service Bureau (CSB).

SOCs, two were canceled and the remaining two could not be verified.[198] In addition Telcordia concluded that SWBT's OSS for ALPS/LIRA and E911 functioned as expected.[199] Overall, with respect to functionality testing Telcordia concluded that the test confirmed SWBT can properly process orders and deliver the ordered services or service changes.

In addition to functionality testing of SWBT ordering and provisioning systems, capacity testing results led Telcordia to conclude that SWBT's ordering and processing OSSs have the capacity to process a 25% increase over CLEC 1st quarter 2000 forecasted volumes.[200] In one of the recommended seven next steps, Telcordia did conclude that SWBT needed to implement certain forecasting methodologies for adding capacity to the systems subsequently agreed to by SWBT. As a follow-up activity on the question of manual scalability the Texas Commission also requested that SWBT model several scenarios with various levels of manual handling to analyze the results on personnel needs at SWBT's local service center (LSC) and local operation center (LOC). After third party and staff review of the force model projections the Texas Commission determined that SWBT's forecasting tool was sufficiently robust and that even the "worst case" scenarios for projected staffing needs were achievable and reasonable.

ii. Commercial Performance

PM-4 measures the percent of time the OSS interface is available compared to the scheduled availability. It is disaggregated into EASE and EDI and measured against a benchmark of 99.5% that will ensure CLECs do not experience any excessive unscheduled outages in either interface. SWBT complied with the benchmark for all months, August through November, except for LEX and Toolbar. SWBT's observed performance in August for LEX was 98.5% and for Toolbar was 99.3%. After these narrow misses, SWBT's performance met the benchmark for both in September, October, and November. In addition, the conditions included in the Ameritech merger require the provision of the EDI interface without monthly fees and should increase EDI usage while decreasing reliance on LEX.

PM-5 calculates the percent of FOCs returned within a specified time frame from the receipt of a complete and accurate service request to the return of a confirmation to the CLEC. PM-5 is disaggregated by submeasures for manually submitted requests and electronically submitted requests via LEX or EDI, and is measured against a benchmark. Submeasure "% FOCs for Simple Res. And Bus," via EDI (mechanized) was met for the months of August through November. For UNE loop (1-50) via EDI (mechanized) SWBT delivered performance in excess of the benchmark in August and September. However, in October and November the benchmark was missed. The largest volume of orders occurred in August and the performance during that month was well above the benchmark. Thus the Texas Commission does not believe that a systemic problem exists.

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[198] Final SWBT OSS Readiness Report at 8. *See* Section 4 of the report for a full treatment of the ordering and provisioning testing results.

[199] Final SWBT OSS Readiness Report at 9.

[200] Final SWBT OSS Readiness Report at 8, 9.

For manual "% FOCs Simple Res. and Bus.," SWBT delivered compliant performance for the months of August through November. For manual "UNE loop (1-50)" SWBT missed the benchmark for three out of the four months. The Texas Commission believes that the performance delivered under this measure does not indicate a systemic problem, as volumes declined for manual orders.[201] Similarly, for the submeasure manual "% FOCs for switchport" SWBT delivered compliant performance in August, but missed the benchmark September through November on lower volumes. SWBT has indicated that the FOCs returned for this submeasure only represent 0.3% of the total FOCs returned, thus any competitive impact on CLECs is minimal.[202] The Texas Commission agrees that this is a valid consideration recognizing that many CLECs are moving from manual to mechanical processes. Further, any substandard performance would give rise to tier 1 damages of $25 per occurrence.

PM-7, which captures the percent of mechanized completions notices returned within one hour of completion in SORD, shows that SWBT's performance has been exceptional. For LEX, SWBT has provided compliant performance during July (99.8%), August (99.4%), September (99.8%), October (100%), and November (100%). For EDI, SWBT has provided compliant performance during July (99.3%), August (99.5%), October (99.8%), and November (100%), only missing in September (91.9%). These results show performance that exceeds the benchmark.

PM-12 captures the percent of mechanized orders accurately completed. This measurement compares the features ordered on a mechanized order to that which is provisioned on the switch. The data submitted for this measurement is analyzed for parity. SWBT's performance results indicate that for the months of August through November SWBT has provided performance at a level much higher than parity.

Perhaps the key OSS performance measure is PM-13, which measures the percent of orders or LSRs, from entry to distribution, that progress without manual intervention through SWBT's ordering systems. The data submitted by SWBT indicates that the percentage for CLEC electronic order flow-through for EDI for August, September, October, and November was 97.5%, 99.1%, 97.6%, and 96.3% respectively. In addition, for SWBT's retail EASE flow-through, the data showed performance of 91.3%, 91.3%, 91.0%, and 91.3% respectively. Compared with SWBT's performance delivered to CLECs for EASE, the results speak for themselves.[203]

PM-94 captures the percentage of FOCs returned within a specified time frame from the receipt of a complete and accurate LNP or LNP with Loop service request to the return of a confirmation to the CLEC. For submeasure "LNP with Loop Res./Bus. (1-19)" SWBT did not

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[201] The performance data for Manual FOCs for simple Business and Residence Orders for August, September, October, an November, shows SWBT's performance was 91.9%, 94.7%, 88.7%, and 80.7% respectively. Compare SWBT's performance with Bell Atlantic's reported performance in its New York 271 application at FN 504 which shows that Bell Atlantic returned 80%, 80%, 88%, and 89% FOCs within applicable timeframes during the months of June, July, August, and September for manually processed orders.

[202] Dysart Aff., App. A-5, Tab 1, para. 149.

[203] For CLECs the percentages were 96.8% for August, 97.6% for September, 97.8% for October, and 97.6% for November.

provide compliant performance for the period September through November. SWBT has explained that a reorganization of the LSC, in order to cross train service representatives, led to the substandard performance.[204] SWBT expects this performance to improve and states that the overall long-term benefits of the reorganization will enhance performance.[205] In addition, the Texas Commission believes that the overall performance of EDI for all orders as related to FOC returns shows sufficient performance. Therefore, the Texas Commission believes that CLECs have a meaningful opportunity to compete.

d. Maintenance and Repair

A BOC is obligated to provide competing carriers with nondiscriminatory access to its repair and maintenance systems.[206] The BOC must furnish competitors with equivalent access to all repair and maintenance OSS functions that it provides to itself.[207] Maintenance and repair systems are necessary for competitive LECs to access network information and diagnostic tools that allow them to assist customers who experience service disruptions.[208] Because problems with a BOC's network appear to customers as problems with the competitive LEC's network, a competitive LEC's inability to access and utilize a BOC's maintenance and repair functions would have a severe anticompetitive effect. [209]

In Order No. 25, the Texas Commission made several general recommendations concerning parity access to maintenance and repair functions for OSS. These concerns were addressed during the collaborative process with some resolution.[210] However, to the extent that these issues were not met at the close of the collaborative process, Telcordia's test results show that SWBT met these requirements. In addition, SWBT has shown that it has implemented these concerns in the T2A.

SWBT provides CLECs a choice of two electronic maintenance and repair interfaces – toolbar trouble administration (TBTA) and electronic bonding trouble administration (EBTA).[211] TBTA is the same GUI used by SWBT business customers and IXCs, and permits checking of trouble, initiate mechanized loop testing (MLT), receive test results for resold POTS line and POTS-like UNE combos, and obtain trouble history without SWBT manual intervention.[212] EBTA is a national standard system that allows CLEC to submit trouble reports and receive trouble update and information.[213] EBTA can be integrated with other back office systems.[214]

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[204] Dysart Aff., App. A-5, Tab 1, para. 598.

[205] *Id.*

[206] *BellSouth Louisiana II*, 13 F.C.C.R. at 20621, para. 145.

[207] *Id.*

[208] *Id.*

[209] *BellSouth Louisiana II*, 13 F.C.C.R. at 20692, para. 145.

[210] *See* Final Staff Status Report.

[211] Ham Aff., App. A-4, Tab 1, para. 12.

[212] *Id.*

[213] *Id.*

SWBT noted that it provided in-class training, as well as training documents to CLECs.[215] Also, SWBT pointed out that the TA application has electronic flow-through to SWBT's back office systems and therefore complies with prior Texas Commission Orders.[216] Furthermore, SWBT's offering exceeds the Commission's BA Order requirement because it offers an application to application interface.[217]

The electronic bonding interface was developed to incorporate national standards for trouble reporting and obtaining status updates.[218] Due to the complexity of EDI and the large technology requirements, SWBT stated the EBI system is mainly used by large CLECs.[219] SWBT noted that at the time of filing, EBI was in operation for trouble administration of interexchange access services only, although SWBT had been negotiating with CLECs for local exchange service.[220]

i.   Testing

Telcordia concludes from its observation of testing that maintenance and repair requests were properly processed in the applicable OSSs. During the initial testing mechanized loop testing (MLT) testing was conducted on 15 UNE-P and Resale accounts. Documented results indicate that MLT testing was successful in each instance.[221] SWBT's actual ability and time to clear trouble was tested in 20 test cases on UNE-P and 11 test cases on UNE-L. Telcordia notes that each of the test cases was successfully entered processed and closed by SWBT with positive notification to the CLEC.[222] During the re-test phase of testing 38 trouble tickets were issued, tested and closed. Two tickets could not be entered because of posting issues. Although posting issues in the billing system may delay the accessibility of OSS for M&R, Telcordia concludes that the process of posting completion to other back-end systems assures that the data is accurate, therefore, the interval involved cannot be truncated.[223]

ii.   Commercial Performance

The performance data relating to maintenance and repair is discussed under checklist item nos. 4, 5, 6, and 14.

e.   Billing Functions

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[214] *Id.*

[215] *Id.* at para. 93.

[216] *Id.* at para. 95. *See also* Bell Atlantic at para. 211; *BellSouth Louisiana II* at 20636, para. 52.

[217] Ham Aff., App. A-4, Tab 1, para. 110.

[218] *Id.*

[219] *Id.* at paras. 98-100.

[220] *Id.* at para. 99-106.

[221] Final SWBT OSS Readiness Report at Attach. G04.

[222] *Id.* at Attach. G03.

[223] Final SWBT OSS Readiness Report at 55, 75.

The Commission has stated that a BOC's obligations extend to the provision of nondiscriminatory access to billing functions.[224] Without access to billing information, competitors will be unable to provide accurate and timely bills to their customers. A BOC is obligated to provide competitors with complete and accurate reports on the service usage of competitors' customers in the same manner that it provides such information to itself.[225] Competing carriers unable to provide their customers with complete and accurate bills for all services they offer because of a BOC's failure to provide complete and accurate billing information are at a competitive disadvantage.[226]

The Commission found that double billing is compelling evidence that a BOC's OSS for ordering and provisioning of resale services is not operationally ready.[227] Such problems, according to the Commission, constitute evidence that a BOC is not providing nondiscriminatory access to OSS functions.[228] While a BOC should not be held to a standard of perfection, double-billing, as well as problems associated with manual processing may constitute fundamental problems with a BOC's ability to provide nondiscriminatory access to OSS functions.[229]

In Order No. 25 the Texas Commission recommended that SWBT develop the record further on billing issues and specifically resolve the double billing issue, as well as other billing issues raised. These billing recommendations were met during the collaborative process, with the exception of the possible double billing concern.[230] The Texas Commission determined that this issue could best be addressed through testing of SWBT's billing functionality. Because of Telcordia's findings in the functionality test showing that SWBT had adequate billing processes in place which minimize the likelihood of double billing, the Texas Commission is satisfied that this issue is resolved.

SWBT offers five electronic interfaces for billing, including: Bill Plus, EDI 811 (resale), Carrier Access Billing System Bill Tape Data, Bill Information and Usage Extract.[231] All of the interfaces are currently in commercial use and allow CLECs to bill, process customers claims and adjustments, and to view SWBT's bill for services provided to the CLEC.[232]

SWBT described the Bill Plus service as an electronic version of the CLEC's paper bill with the added capability to analyze the billing data.[233] As far as EDI for billing, SWBT stated

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[224] *BellSouth Louisiana II*, 13 F.C.C.R. at 20698, para. 158.

[225] *Id.*

[226] *Id.* at 20698-99, para. 160.

[227] *Id.* at 20720, para. 203.

[228] *Id.*

[229] *Id.*

[230] *See* Final Staff Status Report.

[231] Ham Aff., App. A-4, Tab 1, para. 16.

[232] *Id.*

[233] *Id.* at para. 108.

that it is an interface that enables CLECs to receive their resold services billing data in an industry standard electronic format.[234] According to SWBT, EDI for billing enables CLECs to analyze their billing data, generate reports, track IntraLATA Toll and export data to internal systems.[235] SWBT also made available to CLECs a local BDT to electronically receive from SWBT's CABS database, the same information as contained in the CLEC's paper bill for unbundled network elements.[236] SWBT stated that it also provided online access to the Bill Information application from the Toolbar platform.[237] Bill Information is a GUI that provided CLECs real-time access to SWBT's back-office OSS, thus allowing a CLEC to view billing data and other information regarding its resold services or unbundled network elements.[238] Finally, SWBT described Usage Extract as a daily, "live" process to provide CLECs electronically or on magnetic tape, information on the usage billed to its accounts in the industry standard, Exchange Message Record ("EMR") format.[239]

SWBT stated that to minimize the likelihood of double billing, it has created the Error Resolution Team ("ERT"). These specialists deal with the orders that are in error status once the order is completed but not posted. Because the ERT focuses on the billing date or the billing close date, SWBT believes this provides nondiscriminatory treatment.[240]

i.   Testing

The primary focus of Telcordia's billing analysis included a verification of the accuracy, formatting, timeliness and completeness of the UNE-L, UNE-P and resale bills, in each format provided by SWBT.[241] Telcordia concluded that all charges sent on bills during UNE-L, UNE-P and Resale validation were calculated accurately and were consistent with the prices specified in the applicable interconnection agreement with the exception of the incorrect assessment of surcharges for the UNE-L CLEC discussed in the Interim Report since addressed by SWBT.[242] Telcordia also concluded that the majority of paper and mechanized bills were timely and that 97 percent of completed service orders posted on time to the billing system.[243]

ii.   Commercial Performance

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[234] *Id.* at para. 109.

[235] *Id.*

[236] *Id.* at para. 111.

[237] *Id.* at para. 112.

[238] *Id.*

[239] *Id.* at para. 113.

[240] SWBT has agreed to trend the information gathered and analyzed by the ERT and share the results internally for SWBT LSC development, and then with the CLECs.

[241] SWBT offered formats include paper, electronic, CABS and CRIS.

[242] Telcordia validated that necessary updates to SWBT systems had occurred with respect to billing with the exception of format changes to be validated with a software change in March, 2000. These changes did not affect Telcordia's principle conclusions.

[243] Final SWBT OSS Readiness Report at 102-103.

PM-15 and PM-17 address the completeness and accuracy of bills provided by SWBT to CLECs. PM-15 measures the percent of monthly bills sent to CLECs via EDI that are accurate and complete. The accuracy of a bill is based on three factors, totaling, formatting and syntax. The benchmark established for PM-15 is 99%. SWBT's performance data indicates that SWBT provided compliant performance from August through November.

PM-17 captures billing completeness by measuring the percent of service orders completed within the billing cycle that post in the CRIS or CABS billing systems prior to the customer's bill period. The data for PM-17 is disaggregated into two levels, CLEC and non-CLEC and the benchmark is parity with SWBT retail. Although SWBT has missed the billing completeness measure for August through November, the disparity in performance is minimal. SWBT has missed this performance measure in the narrow range of .5% to 1.2%. SWBT has provided CLECs with an average completeness percentage of 98.25%, compared with its own percentage of 99%. In addition, the relative complexity of CABS orders as compared to CRIS orders may contribute to the nominally greater percentage of errors.[244] Telcordia tested billing as part of its UNE-L, UNE-P, and resale functionality tests, and found that the billing functionality tested sufficiently. Even more importantly, SWBT has met seven of the eight measures associated with accuracy, timeliness, and completeness of bills. Thus, SWBT's overall performance is sufficient. Based on all of the evidence and supporting data, including testing, the Texas Commission believes that billing issues have been sufficiently addressed and is assured that SWBT is providing non-discriminatory access to billing functions.

f. Documentation, Change Management, and Training

The BOC must provide competing carriers with the specifications and information necessary to enable them to modify or design their systems in a manner that allows them to communicate quickly and efficiently with the BOC's legacy systems and any interfaces utilized by the BOC for such access. Furthermore, a BOC must provide competing carriers with all of the information necessary to format and process their electronic requests so that these requests flow through the interfaces, transmission links, and into the legacy systems as quickly and efficiently as possible. In addition, the BOC must disclose internal "business rules" to competing carriers, including information on ordering codes, to allow those carriers to place orders through the system efficiently.

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[244] Affidavit of Elizabeth A. Ham, 12-14-99 at para. 5. Orders billed through CABS, including CLEC UNE orders, by their very nature are more complex than orders processed by CRIS. SWBT uses CRIS in its retail operation. SWBT has stated that this is one of the measures that it would like discussed at the six-month review process.

In Order No. 25 the Texas Commission recommended that SWBT should conform its technical documentation to adequately explain the function of its interfaces and provide training to CLECs to properly utilize interfaces. In addition, the Texas Commission recommended that SWBT provide CLECs with sufficient definition or information to allow CLECs to decipher database information without having to access SWBT's systems. At the close of the collaborative process, the Texas Commission determined that the recommendations had been met. However, as part of the testing process, Telcordia identified documentation discrepancies and performed root cause analysis as well as evaluated the change management process associated with two software releases.

i. Training and Documentation

SWBT provides extensive training for CLEC employees. Classes include training on the use of OSS interfaces including manual and electronic ordering processes. SWBT conforms its technical documents to meet the LEX and EDI interfaces.[245] SWBT offers OSS classes with combined 40 days of training.[246] Courses are typically "train the trainer" format. Classes include basic UNE, Local number portability, LEX/LSR for resale, universal service order code, billing, directory listing, and ASR orders.[247] These courses cover basic information necessary for a CLEC to access the features of SWBT OSS systems. In addition, SWBT provides technical documentation that matches the business requirements provided by SWBT to CLECs for development of its EDI interface.[248]

System documentation includes primarily the EDI interface document, SWBT LSOR, SWBT CLEC Handbook, and SWBT accessible letters. Although carrier-to-carrier testing differs from pseudo-CLEC testing in that interfaces and orders are passed by carriers production systems, processes, and personnel the inference is that any deficiencies in documentation appear through the identification of errors. In carrier-to-carrier testing the CLEC ability to build EDI to specification and pass orders is one indicator of the sufficiency of documentation as well as an indicator of the efficacy of documentation in allowing multiple parties to build and pass orders per their specific business specification. In the Texas carrier-to-carrier testing evidence of any identified deficiency resulted in Telcordia's review for root cause analysis of the identified deficiency. As noted in Attachment A to Telcordia's final report each documentation deficiency was identified.[249] The identified documentation deficiencies were resolved through third party verification of the efficacy of changes to the documentation. As necessary, documentation changes were noted in Accessible Letters distributed by SWBT.

In addition, at the Texas Commission's Request, Telcordia conducted an additional post-testing evaluation of SWBT EDI/LSR documentation and training. Telcordia principally concluded that the information resources furnished to CLECs are clear and comprehensive and

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[245] Ham Aff., App. A-4, Tab 1, para. 368.

[246] *Id.* at para. 370.

[247] *Id.* at para. 368.

[248] T2A, Attach. 7, Sec. 4.1.

[249] Final SWBT OSS Readiness Report at Attach. A.

conform to applicable ordering and billing forum (OBF) standards (with respect to pre-order and order functions), and TCIF guidelines (with respect to EDI). Telcordia also found that SWBT provided resources to the CLEC community to ensure successful implementation of EDI transmission for the purposes of passing LSRs.[250]

ii. Change Management

In accordance with the Texas Commission's recommendation, SWBT committed to establishing regular Change Management meetings beginning October 26, 1998. Additionally, SWBT created a 12-month Development Plan that constantly reflects the OSS modifications planned by SWBT. The Plan includes proposed releases, their content and proposed periods for CLEC and SWBT testing.

Change Management allows CLECs to fully integrate with SWBT's OSS systems, where national standards are evolving over time and carrier-to-carrier testing is taking place. Without the information shared in Change Management meetings, CLECs may encounter significant delays. SWBT committed to: (1) holding monthly Change Management meetings; (2) provide interested CLECs with the ability to establish the agenda for the; (3) submit the minutes of the meeting to the CLECs and allow the CLECs five business days to comment; (4) file a CLEC's comments along with the minutes if they are not incorporated into the minutes; and (5) within two weeks after each Change Management meeting file the minutes with the Texas Commission. Furthermore, the Change Management meetings culminated in an agreed document filed with the Texas Commission on September 21, 1999.[251] SWBT agreed in the T2A to announce and implement EDI releases in accordance with the policies, practices, and scheduling set forth jointly by SWBT and the CLECs in the Change Management Process.

In order to develop an understanding of SWBT's compliance with the documented change management procedures in place during 1999, the Texas Commission requested that Telcordia evaluate the SWBT change management process surrounding two software releases. Telcordia evaluated the SWBT documentation governing the change management process, monitored the change management meetings between SWBT and the CLEC community, observed the testing of the software release to be implemented and participated in the meeting to determine the go/no go status of the software release. Telcordia also interviewed CLECs to determine the extent of SWBT's compliance with the process. With regard to the August 14, 1999 release, Telcordia found that SWBT had generally followed the documented procedures and that inconsistencies with that process did not undermine its intent.[252] In a supplemental evaluation Telcordia also observed the prelude to SWBT's software release on October 23, 1999. In the supplemental report issued by Telcordia on December 16, 1999 Telcordia again concluded that SWBT had followed the intent of its change management process. Telcordia also concluded that, with the exception of one minor item that could not be assessed, each of the

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[250] SWBT EDI/LSR Documentation Analysis at 1. (Dec. 13, 1999).

[251] SWBT Competitive Local Exchange Carrier (CLEC) Interface Change Management Process, Project No. 20400, Attachment to Letter to Farroba, Siegel and Srinivasa (Sept. 21, 1999) ("Change Management Document").

[252] Telcordia Change Control Validation Report at 5.

recommendations for improvement made in its earlier report had been accounted for in the October release.[253]

The change management process for 2000 and beyond is controlled by a document agreed on by both SWBT and CLECs titled: Interface Change Management Process: SWBT and Competitive Local Exchange Carrier (CLEC) ("Change Management document"). The Change Management Document outlines the processes for changes to existing interfaces, introduction of new interfaces, retirement of existing interfaces and testing. The Document also sets up Outstanding Issue Solution (OIS) and the processes for a "go/no-go" vote before a release. Given Telcordia's evaluation of SWBT's past compliance with change management processes and procedures and the fact that SWBT and the CLEC community are currently operating under an agreed change management document, the Texas Commission has determined that SWBT has met its obligation with respect to change management.

Based on the evidence in the record, the Texas Commission verifies that SWBT has satisfied the requirements of 271(c)(2)(B)(ii).

C. Checklist Item Three – Poles, Ducts, Conduits, and Rights-of-Way

Has SWBT provided nondiscriminatory access to the poles, ducts, conduits, and rights-of-way owned or controlled by SWBT at just and reasonable rates in accordance with the requirements of section 224 of the Communications Act of 1934 as amended by the FTA 96 pursuant to 271(c)(2)(B)(iii), and applicable rules promulgated by the Commission?

The Texas Commission finds that SWBT has satisfied the requirements of checklist item 3. SWBT provides nondiscriminatory access to the poles, ducts, conduits, and rights-of-way at just and reasonable rates in accordance with the requirements of section 224.[254]

Regarding checklist item 3, the Commission has analyzed whether a BOC has established nondiscriminatory procedures for: evaluating facilities requests pursuant to section 224 and the Local Competition Order; granting CLECs access to information regarding facilities availability; permitting CLECs to use non-ILEC personnel to complete site preparation; and compliance with pricing requirements of the state or federal government.[255]

The issue of access to SWBT controlled poles, ducts, conduits and rights-of-way has been intricately tied to issues of performance measurement and the establishment of timeframes and procedures which assure the CLECs parity access to these facilities. The T2A legally obligates SWBT to provide non-discriminatory access to poles, ducts, conduits, and rights-of-way owned by SWBT at just and reasonable rates in accordance with the requirements of section

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[253] Supplemental Assessment of the SWBT Change Management Process at ES – 1 and 6-8.

[254] 47 U.S.C. 271(c)(2)(B)(iii).

[255] *BellSouth Corporation*, 13 F.C.C.R. 20599, 20707-08, para. 174 (1998) (hereinafter "*BellSouth Louisiana II*").